

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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| In Re Application Of: Walter H. Delashmit, Jr.,<br><i>et al.</i>                               | Group Art Unit: 2128        |
| Serial No.: 10/758,452   | Examiner: Cuong V. Luu      |
| Filed: January 15, 2004  | Atty. Dkt. No.: 2063.007100 |
| For: Method And Apparatus For Developing<br>Synthetic Three-Dimensional Models From<br>Imagery | Client Docket: VS-00650     |
|  | Confirmation No.: 5621      |

**REPLY BRIEF**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Applicants hereby submit this Reply Brief to the Board of Patent Appeals and Interferences in response to the Examiner's Answer dated August 31, 2007.

It is believed that no fee is due; however, should any fees under 37 C.F.R. §§ 1.16 to 1.21 be required for any reason, the Commissioner is authorized to deduct said fees from Williams, Morgan & Amerson, P.C. Deposit Account No. 50-0786/2063.007100.

**I. THE REJECTION OF CLAIMS 74-75 HAS BEEN WITHDRAWN**

The indefiniteness rejection of claims 75-75 was withdrawn in the "Examiner's Answer", on p. 15.

**II. THE OFFICE MISAPPLIES MUELLER *ET AL.***

The Office continues to misapply U.S. Publication No. 2003/0071194 ("Mueller, *et al.*")<sup>1</sup>, and in the process commits several errors. First, the Office focuses only on those parts of

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<sup>1</sup> Applicants still do not concede that Mueller *et al.* is in fact prior art and still reserve the right to swear behind it.

Mueller *et al.* that support its position while ignoring the rest of what it teaches. Second, the Office has exercised hindsight. And, third, the Office improperly focuses on the limitations of the claims to refute Applicants' arguments regarding the applicability of Mueller *et al.*

"It is well settled that a prior art reference is relevant for all that it teaches to those of ordinary skill in the art." *In re Fritch*, 23 U.S.P.Q.2d (BNA) 1780, 1782 (Fed. Cir. 1992); M.P.E.P. §2142.02. In determining patentability, one simply cannot ignore parts of references or pertinent parts of the prior art, *Fritch*, 23 U.S.P.Q.2d (BNA) at 1782, including those that teach away from the claimed invention, *Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve, Inc.*, 230 U.S.P.Q. (BNA) 416, 420 (Fed. Cir. 1986). And yet, this is precisely what the Office has done.

For example, in establishing that Mueller *et al.* is from a non-analogous art, Applicants argue:

Mueller *et al.* is clearly is not from the same field of endeavor as the invention. Applicants' invention is a technique for generating synthetic 3D models for embedment in an ATR. (Delashmit & Jack, ¶[0002]) Mueller *et al.*, on the other hand, teaches a technique for achieving color fidelity in a scanned, 2D image of a 3D object. (Mueller *et al.*, ¶[0003]) Thus, on the face of the application and Mueller *et al.*, they are not from the same field of endeavor.

("Appeal Brief", p. 12) The Office does not contest this construction in any way. It does not allege that this is a misconstruction, or that this teaching is not found in Mueller *et al.* The Office just ignores it.

As a second example, again in establishing that Mueller *et al.* is from a non-analogous art, Applicants subsequently argue:

Applicants were addressing the difficulty of developing synthetic 3D images of vehicles for use in an automatic target recognition ("ATR") system. (Delashmit & Jack, ¶[0003] – ¶[0009]) More particularly, Applicants were addressing the difficulty posed in the prior art by having to have the vehicle present. (*Id.*, especially ¶[0009]) Mueller *et al.* is about getting the color correct in a two-dimensional, scanned image of a three-dimensional object. (Mueller *et al.*, ¶[0004] – ¶[0009]) These are two very different purposes, and "the inventor(s) would accordingly have less motivation or occasion to consider it." *Clay*, 966 F.2d at 659. There is no reason to seek a 3D synthetic modeling technique for a 3D object for embedment in an ATR in a reference on producing correct color in a two-dimensional scanned image.

(“Appeal Brief”, p. 12) The Office also does not contest this construction in any way. It does not allege that this is a misconstruction, or that this teaching is not found in Mueller *et al.*

The Office instead focuses only on those parts of Mueller *et al.* favorable to its position. In responding to Applicants’ arguments that Mueller *et al.* is from a non-analogous art, the Office states:

Non-analogous art. The Examiner respectfully disagrees. Mueller teaches an invention that develops a 3-D model of an object from a plurality of scanned images in paragraph 0011 on pages 1-2 and paragraph 0049 page 3...

(Examiner’s Answer, p. 15) Note how the Office zeros in exclusively on that particular, cited passage without in any way acknowledging the context in which the teaching is made. That is, the Office is ignoring the rest of what Mueller *et al.* teaches to lift those passages supporting its position out of that context. This is improper. One must consider all the teachings of the reference and cannot disregard any part of those teachings. *In re Fritch*, 23 U.S.P.Q.2d (BNA) 1780, 1782 (Fed. Cir. 1992).

This technique the Office uses in applying Mueller *et al.* is otherwise known as “hindsight”. The Office cannot use Applicants’ disclosure as a “template” or a “pattern” from which to reconstruct his invention from the prior art. *In re Gorman*, 18 U.S.P.Q.2d (BNA) 1885 (Fed. Cir. 1991); *In re Fritch*, 23 U.S.P.Q.2d (BNA) 1780 (Fed. Cir. 1992); *In re Oetiker*, 24 U.S.P.Q.2d (BNA) 1443 (Fed. Cir. 1992). By ignoring those teachings unfavorable to its position while focusing on those it likes, the Office is clearly using “...hindsight to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention”, *In re Fine*, 5 U.S.P.Q.2d (BNA) 1596 (Fed. Cir. 1988), which is impermissible, *id.*

The Office compounds this error by improperly focusing on the limitations of the claims to dismiss Applicants’ arguments, which also manifests hindsight. In particular, the Office several times states, that:

In response to applicant’s argument that the references fail to show certain features of applicant’s invention, it is noted that the references fail to show certain features of applicant’s invention, it is noted that the features upon which applicant relies (i.e. addressing the difficulty of developing synthetic 3D images of vehicles) are not recited in the rejected claims.

(Examiner's Answer, pp. 17-18) The Office more particularly makes this statement in responding to Applicants' arguments that Mueller *et al.* is non-analogous art and teaches away.

This observation is irrelevant, because these issues do not turn on the limitations of the claims. For example, the test for whether art is within the scope of the content of the prior art was properly stated in the "Appeal Brief", p. 11:

"Two criteria have evolved for determining whether prior art is analogous: (1) "[W]hether the art is from *the same field of endeavor*, regardless of the problem addressed, and (2) if the reference is not within the field of the inventor's endeavor, whether the reference still is *reasonably pertinent to the particular problem* with which the inventor is involved." *In re Clay*, 966 F.2d 656, 658-59 (Fed. Cir. 1992) (reversing Board holding of obviousness).

(emphasis added) Note that neither prong of this test even mentions the claims themselves.

With respect to teaching away, the courts have said:

*A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the application.* The degree of teaching away will of course depend on the particular facts; in general a reference will teach away if it suggests that the line of development flowing from the reference's disclosure is unlikely to be productive of the result sought by the applicant.

*In re Gurley*, 31 U.S.P.Q.2d (BNA) 1130, 1131 (Fed. Cir. 1994) (emphasis added). Note again that no mention is made of the actual limitations of the claims.

The absence of claim limitations from the correct legal analysis is especially apt since they necessarily arise after invention—*i.e.*, after the point of conception. To focus the determination of what is prior art or what teaches away on the actual limitations of the claims *would therefore necessarily be an act of hindsight.*

Our analysis begins in the text of section 103 quoted above, with the phrase 'at the time the invention was made.' For it is this phrase that guards against entry into the 'tempting but forbidden zone of hindsight' when analyzing the patentability of claims pursuant to that section. Measuring a claimed invention against the standard established by section 103 requires the oft-difficult but critical step of casting the mind back to the time of invention, to consider the thinking of one of ordinary skill in the art, *guided*

*only by the prior art references and the then-accepted wisdom in the field.*

*In re Dembiczak*, 50 U.S.P.Q.2d (BNA) 1614, 1616-1617 (Fed. Cir. 1999) (emphasis added). Note yet again that there is no mention of claim limitations. Thus, the Office's rejoinder that Applicants are relying on limitations not found in the claims is utterly irrelevant.

The Office's response to Applicants' arguments is therefore one long exercise in selective, hindsight reconstruction of Applicants' claims from the prior art, especially with respect to Mueller *et al.* The Office has continued to disregard those portions of Mueller *et al.* that cut against its position while focusing solely on those that support it. This is contrary to law and policy. *In re Fritch*, 23 U.S.P.Q.2d (BNA) 1780, 1782 (Fed. Cir. 1992); *Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve, Inc.*, 230 U.S.P.Q. (BNA) 416, 420 (Fed. Cir. 1986); M.P.E.P. §2142.02. One is not permitted to pick and choose in this manner through the exercise of hindsight. *In re Fine*, 5 U.S.P.Q.2d (BNA) 1596 (Fed. Cir. 1988). And the Office's resort to the limitations of the claims to justify its actions constitutes legal error. *In re Clay*, 966 F.2d 656, 658-59 (Fed. Cir. 1992) (scope and content of the art); *In re Gurley*, 31 U.S.P.Q.2d (BNA) 1130, 1131 (Fed. Cir. 1994) (teaching away). In essence, the Office has failed to provide any response to Applicants' arguments that is legally correct, or even relevant, under the law.

### **III. MUELLER *ET AL.* IS OUTSIDE THE SCOPE AND CONTENT OF THE PRIOR ART**

Applicants maintain that Mueller *et al.* is outside the scope and content of the prior art under the legal test pronounced in, *inter alia*, *In re Clay*, 23 U.S.P.Q.2d (BNA) 1058 (Fed. Cir. 1992). The Office has two responses: Mueller *et al.* teaches developing a 3D model of an object from a plurality of scanned images (Examiner's Answer, pp. 15-16, p. 17); and that Applicants are relying on limitations that are not found in the claims (Examiner's Answer, pp. 15-16, p. 17).

The first response is a selective, hindsight reconstruction of Mueller *et al.* as is established above. Even if one assumes the response is correct insofar as it goes, it teaches what the Office alleges *only in the larger context of a technique for achieving color fidelity in a scanned, 2D image of a 3D object*. The Office *cannot* disregard this larger context because "[i]t is well settled that a prior art reference is relevant for all that it teaches to those of ordinary skill in the art." *In re Fritch*, 23 U.S.P.Q.2d (BNA) 1780, 1782 (Fed. Cir. 1992); M.P.E.P. §2142.02.

Because hindsight is impermissible, the issue is decided in this larger context rather than the selective detail on which the Office focuses.

The second response is simply irrelevant to the legal analysis:

Two criteria have evolved for determining whether prior art is analogous: (1) whether the art is from *the same field of endeavor*, regardless of the problem addressed, and (2) if the reference is not within the field of the inventor's endeavor, whether the reference still is *reasonably pertinent to the particular problem* with which the inventor is involved.

*In re Clay*, 966 F.2d 656, 658-59 (Fed. Cir. 1992) (reversing Board holding of obviousness) (emphasis added). Note that neither prong of this test even mentions the claims themselves. Also, as is established above, it manifests the exercise of hindsight.

The root error in the Office's position is that it defines both the problem confronting the inventor and Mueller *et al.*'s disclosure too broadly. See *Clay*, 23 U.S.P.Q.2d (BNA) at 1060 (overly broad definition of applicant's field of endeavor resulting in erroneous rejection); *In re Pagliero*, 210 U.S.P.Q. (BNA) 888 (CCPA 1981); *Ex Parte Dussaud*, 7 U.S.P.Q.2d (BNA) 1818, 1819 (Bd.Pat.App.Int. 1988) (overly broad definition of other problem facing the inventor resulting in erroneous rejection). The court's discussion in *Clay* is pertinent to the present case. In addressing the first part of the test for analogous art, the Federal Circuit reasoned:

The PTO argues that [the reference] and [Applicant's] inventions are part of a common endeavor—"maximizing withdrawal of petroleum stored in petroleum reservoirs." However, [the reference] cannot be considered to be within [Applicant's] field of endeavor merely because both relate to the petroleum industry. ...[Applicant's] field of endeavor is the *storage* of refined liquid hydrocarbons. The field of endeavor of the [reference], on the other hand, is the *extraction* of crude petroleum. The Board clearly erred in considering [the reference] to be within the same field of endeavor as [Applicant's].

*Clay*, 23 U.S.P.Q.2d (BNA) at 1060. This reasoning reads directly on the present case with only slight modification for the technologies involved. With respect to the second part of the test, the Federal Circuit, after a discussion of the two inventions, held:

A person having ordinary skill in the art would not reasonably have expected to solve the problem of dead volume in tanks for storing refined petroleum by considering a reference dealing with pluggin underground formation anomalies. The Board's finding to the contrary is clearly erroneous.

Clay, 23 U.S.P.Q.2d (BNA) at 1061.

With some modification for the involved technologies, the reasoning in *Clay* applies directly to the present case. As Applicants set forth in the “Appeal Brief”:

Applicants were addressing the difficulty of developing synthetic 3D images of vehicles for use in an automatic target recognition (“ATR”) system. (Delashmit & Jack, ¶¶[0003] – ¶[0009]) More particularly, Applicants were addressing the difficulty posed in the prior art by having to have the vehicle present. (*Id.*, especially ¶[0009]) Mueller *et al.* is about getting the color correct in a two-dimensional, scanned image of a three-dimensional object. (Mueller *et al.*, ¶¶[0004] – ¶[0009]) These are two very different purposes, and “the inventor(s) would accordingly have less motivation or occasion to consider it.” *Clay*, 966 F.2d at 659. There is no reason to seek a 3D synthetic modeling technique for a 3D object for embedment in an ATR in a reference on producing correct color in a two-dimensional scanned image.

(Appeal Brief, p. 12) Thus, Mueller *et al.* is outside the scope and content of the prior art.

#### IV. MUELLER *ET AL.* STILL TEACHES AWAY

When the disclosure of Mueller *et al.* is considered in its entirety, and if it is considered within the scope and content of the prior art, it teaches away. The Office responds that, “...it is noted that the features upon which applicant relies (i.e., addressing the difficulty of developing synthetic 3D images of vehicles) are not recited in the rejected claims.” (Examiner’s Answer, p. 18) As established above, this is a legally irrelevant consideration and manifests the exercise of hindsight.

With respect to teaching away, the courts have said:

*A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the application.* The degree of teaching away will of course depend on the particular facts; in general a reference will teach away if it suggests that the line of development flowing from the reference’s disclosure is unlikely to be productive of the result sought by the applicant.

*In re Gurley*, 31 U.S.P.Q.2d (BNA) 1130, 1131 (Fed. Cir. 1994) (emphasis added). No mention is made of the actual limitations of the claims. But the salient point of *Muller et al.* that the Office ignores under the guise of absent claim limitations is:

While Mueller *et al.* does teach that data image acquisition can be done remotely (§[0052]), it subsequently indicates that this is very undesirable for a whole variety of problems. More particularly, Mueller *et al.* teaches that it is very desirable to achieve a high degree of integration in the equipment—*i.e.*, the processing system and the image processor. (§[0117], §[0119] – [0121]) *This necessarily implies that Mueller et al. is teaching that it is more preferable to bring the scanned object to the equipment in which the data will be processed.*

*Thus, Mueller et al. teaches that circumstance which is precisely the problem Applicants are trying to overcome is the preferable approach.* Indeed, one circumstance that the present invention seeks to address is the situation in which the object to be modeled cannot actually be brought to the equipment that is to do the modeling. (§[0008]) Mueller *et al.* therefore teaches away from Applicants' invention.

("Appeal Brief", p. 13; emphasis added) Accordingly, to the extent Mueller *et al.* is considered within the scope and content of the prior art, it teaches away. Mueller *et al.* therefore actually establishes that the present invention is not obvious. *In re Fine*, 5 U.S.P.Q.2d (BNA) 1596, 1599 (Fed. Cir. 1988); *In re Nielson*, 2 U.S.P.Q.2d (BNA) 1525, 1528 (Fed. Cir. 1987); *In re Hedges*, 228 U.S.P.Q. (BNA) 685, 687 (Fed. Cir. 1986).

## V. CONCLUSION

The Office's response to Applicants' arguments therefore establish that the Office's position is actually predicated on (1) a selective construction of Mueller *et al.* that (2) results from hindsight. When the teachings of Mueller *et al.* on which the Office relies are considered in the context of Mueller *et al.* as a whole, it becomes apparent that Mueller *et al.* is outside the scope and content of the prior art. However, even if Mueller *et al.* is determined to be within the scope and content of the prior art, it *prima facie* establishes that the presently claimed invention is not obvious because it teaches away. Both these facts also mean that Mueller *et al.* is improperly combined with the alleged "admitted prior art".



Wherefore, Applicants pray that all rejections be REVERSED and the application allowed to issue.

Respectfully submitted,

Date: October 26, 2007

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